

**UNITED STATES DISTRICT COURT
MIDDLE DISTRICT OF NORTH CAROLINA**

**SHOALS TECHNOLOGIES
GROUP, LLC,**

Plaintiff,

v.

**VOLTAGE, LLC, and NINGBO
VOLTAGE SMART
PRODUCTION CO.,**

Defendants.

Civil Action No. 1:23-cv-00365-WO-JLW

DEMAND FOR JURY TRIAL

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Shoals Technologies Group, LLC (“Shoals”) hereby makes this First Amended Complaint against Voltage, LLC (“Voltage”) and Ningbo Voltage Smart Production Co. (“Ningbo Voltage”) (collectively the “Voltage Defendants”) as follows:

I. NATURE OF ACTION

1. This is a patent infringement action. Shoals seeks an injunction, damages and other relief for the Voltage Defendants’ infringement of Shoals’ United States patents relating to innovative connectors for solar panel installations.

II. PARTIES

2. Shoals is a limited liability company duly organized and existing under the laws of Tennessee with its principal place of business located at 1400 Shoals Way, Portland, Tennessee 37148.

3. Shoals is the owner by assignment of U.S. Patent No. 10,553,739 (“739 Patent”), U.S. Patent No. 10,992,254 (“254 Patent”), and U.S. Patent No. 11,689,153 (“153 Patent”) (collectively, the “Asserted Patents”).

4. On information and belief, Voltage is a limited liability company incorporated under the laws of North Carolina. Its headquarters and principal place of business is located at 1450 Raleigh Road, Chapel Hill, North Carolina 27517.

5. On information and belief, Ningbo Voltage is a company organized and existing under the laws of the People’s Republic of China. Ningbo Voltage manufactures and exports to the United States products that infringe the Asserted Patents. Ningbo Voltage’s principal place of business is located at No. 201 Bldg. 5 14 Miaofengshan Rd., Beilun District, Ningbo, China.

III. JURISDICTION AND VENUE

6. This action arises under the U.S. Patent Act, codified at 35 U.S.C. § 1 et seq., and in particular, but not limited to, 35 U.S.C. §§ 271, 281, 283, 284 and 285.

7. This Court has original jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a) because the claims arise under the patent laws of the United States.

8. This Court has personal jurisdiction over Voltage in this action because it is domiciled in the State of North Carolina.

9. On information and belief, this Court has personal jurisdiction over Ningbo Voltage because it has availed itself of the rights and benefits of the laws of the State of North Carolina, the claims in this First Amended Complaint arise out of or relate to Ningbo Voltage’s activities within and/or directed to the State of North Carolina, and it has systematic and continuous business contacts with the State of North Carolina.

Specifically, Ningbo Voltage is an affiliate of Voltage, which is domiciled in this forum, and regularly manufactures and exports products that infringe the Asserted Patents to this forum. Ningbo Voltage has purposefully and voluntarily placed the Accused Products into the stream of commerce with the intention and expectation that they will be purchased and used by consumers, including in the Middle District of North Carolina.

10. Venue is proper in this Court under 28 U.S.C. §§ 1391 and 1400(b). Voltage resides in this District as it maintains physical offices with employees in this District and is registered to do business in North Carolina. Voltage and Ningbo Voltage have also transacted business in this District and have committed acts of infringement in this District by, among other things, making, using, offering to sell, selling, and/or importing products that infringe the Asserted Patents. Ningbo Voltage is a Chinese company so venue is proper in any judicial district in the United States.

11. On information and belief, Voltage has regular and established places of business in this District. For example, Voltage maintains its principal place of business at 1450 Raleigh Road, Chapel Hill, North Carolina 27517.

IV. FACTUAL BACKGROUND

12. Shoals was founded in 1996 by Dean Solon, the inventor of the Asserted Patents and the founder and former President and CEO of Shoals. Shoals is a leading provider of electrical balance of system, or EBOS, solutions for solar energy projects, primarily in the United States. EBOS encompasses components that are necessary to carry electric current produced by solar panels to an inverter and ultimately to a power grid. All of Shoals' products are manufactured in plants in Tennessee, Alabama, and California. The products are sold principally to engineering, procurement and

construction firms that build solar energy projects. Shoals has also begun to offer its EBOS products in the market for electric vehicle charging systems.

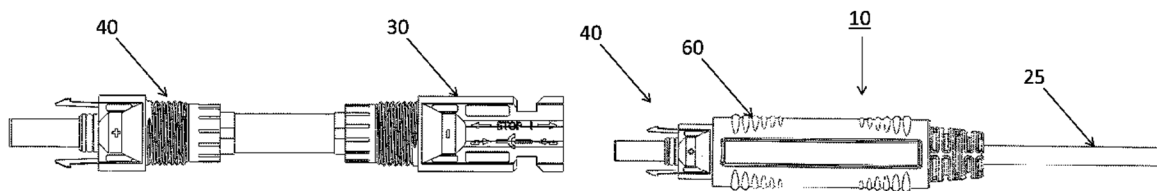
13. Shoals is built on a foundation of American ingenuity, with manufacturing facilities in Portland, Tennessee, Muscle Shoals, Alabama, and Poway, California. Since its founding, Shoals has had an unwavering commitment to quality, reliability, and safety in the products it develops and delivers for its customers. As a tier-1 supplier to the solar, energy storage, and eMobility sectors, Shoals' commitment to sustainability and responsible business practices is foundational to the company.

14. Shoals is a technological leader in the field of EBOS solutions and one of the industry's top innovators. Shoals maintains its position as one of the top innovators in the industry by making substantial investments in the research, development, and acquisition of cutting-edge technologies. Shoals is constantly innovating to find new ways to make EBOS safer and more reliable, while also less expensive and easier to install and maintain. Shoals' innovations, including in particular the inventions claimed in the Asserted Patents, also increase efficiency by reducing energy loss in solar installations. Many of Shoals' technological innovations, products, and concepts are protected by Shoals' valuable intellectual-property portfolio, which includes more than 20 issued United States patents and many pending patent applications. Shoals' BLA (Big Lead Assembly) product, which is protected by the '254 and '153 Patents, won first prize in the Balance of Systems category in *PV Magazine's* 2019 awards (<https://www.pv-magazine.com/magazine-archive/pv-magazine-annual-awards/>) (*PV Magazine* is the leading global solar photovoltaic ("PV") trade magazine).

15. The inventions disclosed in the Asserted Patents are generally directed to improved connectors for solar panel arrays that reduce or eliminate the need for combiner

boxes, and that are inexpensive to manufacture and transport, easy to use, and permit a more simplified component configuration in the solar field.

16. Specifically, the '739 Patent is directed to a photovoltaic connector assembly that has an integral in-line fuse, and is double molded to provide electrical insulation, UV protection, strain relief, impact resistance and thermal stability. The innovative undermold and overmold structure, in particular, surrounds and seals the fuse to provide environmental protection reducing the risk of moisture infiltration. The assembly can be integrated with, or added to, a wiring harness for a photovoltaic installation, thereby providing one fuse per solar panel. The assembly may include zero, one, or two connectors that are male, female, or one of each. The invention's integration of a fuse has the advantage of moving circuit protection from a combiner box to the wiring harness, thereby reducing the number of combiner boxes required in a solar field and permitting a more simplified component configuration. One embodiment from the '739 Patent is illustrated below:



17. Specifically, the '254 Patent is directed to a lead assembly that includes a plurality of drop lines joined to a feeder cable at joints. The drop line and feeder cable are electrically connected at a nexus that may be secured by a compression lug, soldering, splicing, crimping, or combinations thereof. The nexus is surrounded by an undermold that surrounds, seals, and fully encases the nexus, and an overmold surrounds the undermold, resulting in a profoundly durable assembly resistant to environmental factors. In use, each drop line is connected to a solar array, and the feeder cable is connected to an

inverter. In this manner a plurality of solar arrays is electrically coupled together, with a common feeder cable connecting them all to the inverter. A system embodying the invention of the '254 Patent eliminates the need for combiner boxes which are conventionally employed directly upstream of the inverter; elimination of combiner boxes as permitted by the invention of the '254 Patent results in a system that is safer, more reliable, less expensive, and easier to install and maintain. One embodiment from the '254 Patent is illustrated below:

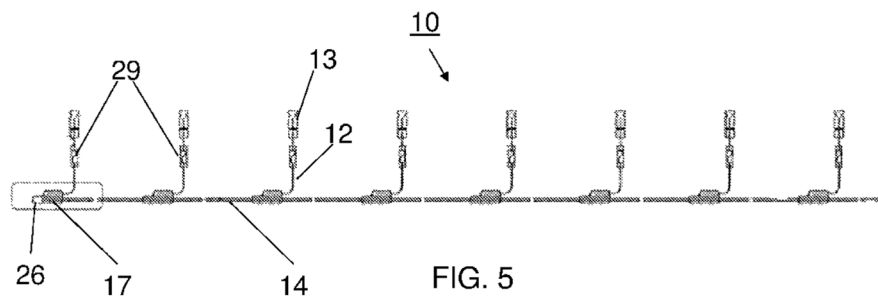


FIG. 5

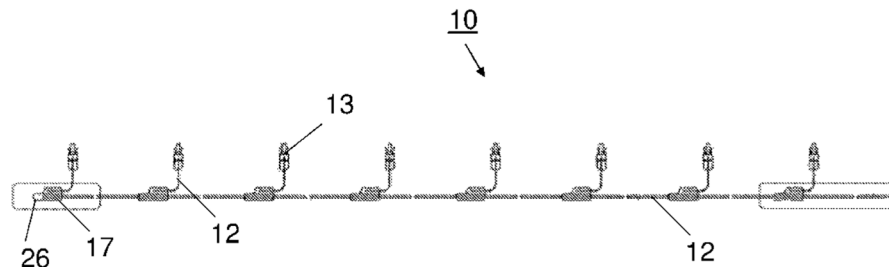


FIG. 6

18. The '153 Patent is directed to a lead assembly that includes two drop lines electrically coupled to a feeder cable at a nexus. The electrical coupling may be secured by at least one of a compression lug, a solder connection, a splice, and a crimp. In use, each drop line may be connected to a wire harness that may connect to a solar panel or array, and the feeder cable may be attached to a trunk buss jumper, an inverter, a connection unit, a recombiner or a disconnect unit. A system embodying the invention of the '153 Patent eliminates the need for combiner boxes which are conventionally employed directly upstream of the inverter, and significantly reduces the amount of wire

needed for a solar installation; elimination of combiner boxes as permitted by the invention of the '153 Patent results in a system that is safer, more reliable, less expensive, and easier to install and maintain. One embodiment from the '153 Patent is illustrated below:

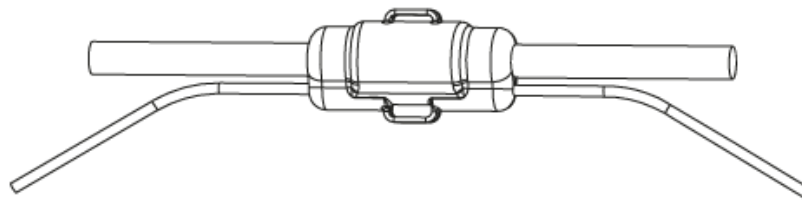


FIG. 49

19. Shoals' products that employ the technology protected by the Asserted Patents include, but are not limited to, the Shoals' Big Lead Assembly ("BLA"), BLA parallel harness, branch connectors, and First Solar interconnect system.

A. The Asserted Patents

a. The '739 Patent

20. On February 4, 2020, the United States Patent & Trademark Office duly and lawfully issued the '739 Patent, entitled "Photovoltaic In Line Fuse Connector Assembly Having An Integral Fuse," to inventor Dean Solon. The '739 Patent issued from U.S. Application No. 14/295,132, filed on June 3, 2014, and claims priority to U.S. Provisional Patent Application No. 61/830,284, filed on June 3, 2013. The '739 Patent expires on December 29, 2034. A true and correct copy of the '739 Patent is attached hereto as **Exhibit 1**.

21. Shoals is the assignee of all rights, title, and interest in and to the '739 Patent with full rights to enforce the '739 Patent and to sue to recover for past, present, and future damages.

b. The '254 Patent

22. On April 27, 2021, the USPTO duly and lawfully issued the '254 Patent, entitled "Lead Assembly For Connecting Solar Panel Arrays To Inverter," to inventor Dean Solon. The '254 Patent was issued from U.S. Application No. 14/849,458, filed on September 9, 2015, and claims priority to U.S. Provisional Patent Application No. 62/047,773, filed on September 9, 2014. The '254 Patent expires on September 9, 2035. A true and correct copy of the '254 Patent is attached hereto as **Exhibit 2**.

23. Shoals is the assignee of all right, title, and interest in and to the '254 Patent with full rights to enforce the '254 Patent and to sue to recover for past, present, and future damages.

c. The '153 Patent

24. On June 27, 2023, the USPTO duly and lawfully issued the '153 Patent, entitled "Lead Assembly for Connecting Solar Panel Arrays to Inverter," to inventor Dean Solon. The '153 Patent was issued from United States Application No. 17/301,609, filed on April 8, 2021, and claims priority to U.S. Provisional Patent Application No. 62/047,773, filed on September 9, 2014. The '153 Patent expires on September 9, 2035. A true and correct copy of the '153 Patent is attached hereto as **Exhibit 3**.

25. Shoals is the assignee of all right, title, and interest in and to the '153 Patent with full rights to enforce the '153 Patent and to sue to recover for past, present, and future damages.

B. The Voltage Defendants' Infringing Activities and Products

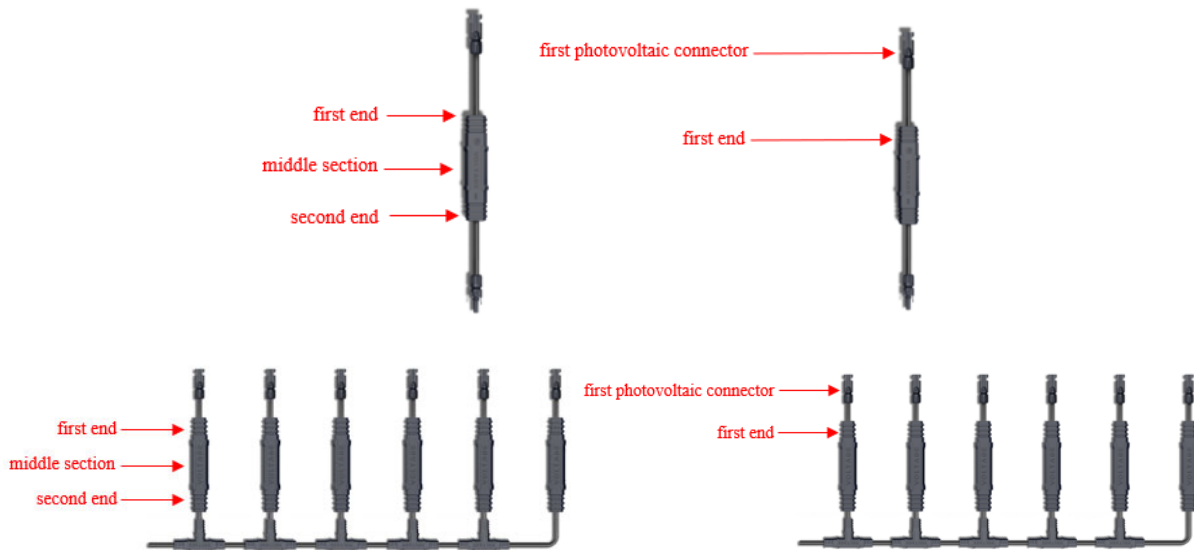
26. On information and belief, the Voltage Defendants use, sell, and/or offer for sale in the United States and in this District connectors for solar panels and solar assembly products including, but not limited to, the Voltage In-Line Fuse, the Voltage String Harness, and the Voltage LYNX Trunk Bus (collectively, the “Accused Products”).¹ Voltage’s website identifies projects for which it delivered “wire solutions” in Rosamond, California, Pueblo, Colorado, Coolidge, Arizona, Okeechobee County, Florida, and Bainbridge, Georgia. On information and belief, the Accused Products have been sold for and installed in multiple solar installations in the United States, including installations of the Voltage Defendants’ customers Moss Solar of Fort Lauderdale, Florida, Strata Clean Energy LLC of Durham, North Carolina, and LPL Solar LLC of Fort Lauderdale, Florida. Voltage also states on its website that it is a “nationwide provider of utility scale wire (solar, EBOS) solutions.”

27. On information and belief, the Accused Products are manufactured by and/or on behalf of Voltage in China, including at its affiliate Ningbo Voltage.

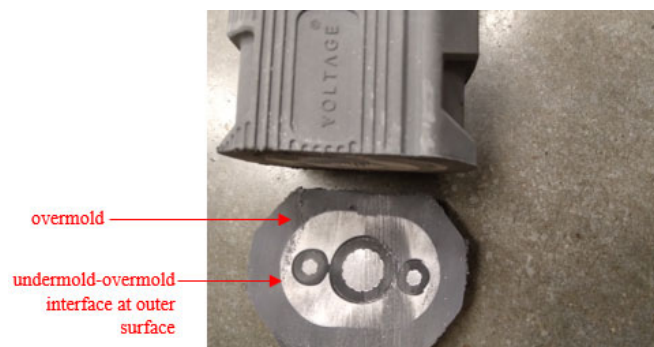
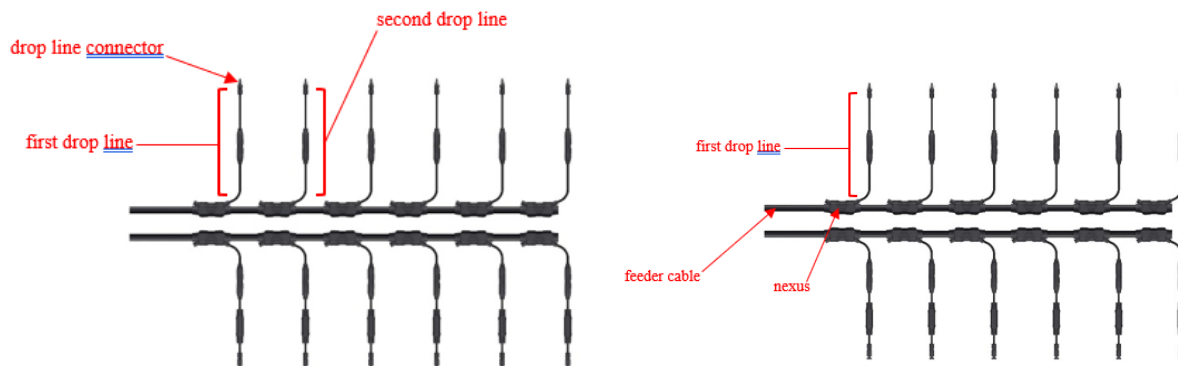
28. The Voltage Defendants’ products, including, at least, the Accused Products, infringe one or more claims of the Asserted Patents.

29. The Voltage In-Line Fuse and Voltage String Harness include, *inter alia*, a photovoltaic fuse with a first end, second end, and middle section, as well as an overmold, undermold, and photovoltaic connector. The following images show these components within the Voltage In-Line Fuse and Voltage String Harness:

¹ Shoals reserves the right to identify additional categories of products if it learns of such products through discovery or other means.



30. The Voltage LYNX Trunk Bus includes, *inter alia*, a first drop line, second drop line, drop line connector, feeder cable, overmold, and undermold. The following images show these components within the Voltage LYNX Trunk Bus:



31. Shoals has lost sales of its competing products due to the Voltage Defendants' infringement of the Asserted Patents.

32. On information and belief, Voltage has had actual knowledge of the '739 and '254 Patents since at least July 21, 2022 as a result of its investigation and monitoring of Shoals patents issued by the United States Patent and Trademark Office. For example, in Voltage's pending Patent Application Publication No. 2023/0027228 A1, filed July 21, 2022, Voltage filed an Information Disclosure Statement by Applicant citing the '254 Patent.

33. The Voltage Defendants have been on notice of their infringement of the '739 and '254 Patents since at least the date of the filing of the original Complaint in this action. In addition, the Voltage Defendants have been on notice of their infringement of the '153 Patent at least as early as June 15, 2023, when counsel for Shoals notified counsel for the Voltage Defendants that Shoals had received notice that the '153 Patent would issue on June 27, 2023, and that Shoals intended to assert the '153 Patent.

34. Shoals has satisfied the statutory requirement to mark its products in accordance with 35 U.S.C. § 287.

V. FIRST CLAIM FOR RELIEF

(Infringement of U.S. Patent No. 10,553,739)

35. Shoals incorporates by reference the allegations contained in the foregoing paragraphs.

36. The Voltage Defendants infringe the '739 Patent, literally or under the doctrine of equivalents, in violation of at least 35 U.S.C. § 271(a) by making, using, selling, offering for sale and/or importing into the United States products, such as the Voltage In-Line Fuse, and the Voltage String Harness and versions of the LYNX Trunk

Bus that incorporate an in-line fuse assembly for solar installation that infringe one or more claims of the '739 Patent, including at least claims 1, 10, and 15.

37. Upon information and belief, the Voltage Defendants infringe the '739 Patent, literally or under the doctrine of equivalents, in violation of at least 35 U.S.C. § 271(b) by actively and knowingly inducing others to make, use, sell, offer for sale, or import into the United States products, such as the Voltage In-Line Fuse and the Voltage String Harness and versions of the LYNX Trunk Bus that incorporate an in-line fuse assembly for solar installation that infringe one or more claims of the '739 Patent, including at least claims 1, 10, and 15.

38. Upon information and belief, the Voltage Defendants infringe the '739 Patent, literally or under the doctrine of equivalents, in violation of at least 35 U.S.C. § 271(c) by contributing to the infringement of the '739 Patent by actively encouraging, promoting, distributing, providing instructions for, and supporting the assembly and use of products such as the Voltage In-Line Fuse and the Voltage String Harness and versions of the LYNX Trunk Bus that incorporate an in-line fuse assembly for solar installation that infringe one or more claims of the '739 Patent, including at least claims 1, 10, and 15.

39. A claim chart showing how the Voltage String Harness meets each of the elements of claims 1, 10, and 15 of the '739 Patent is attached hereto as **Exhibit 4**.

40. As shown in Exhibit 4, the Voltage String Harness meets all elements of claim 1 of the '739 Patent as follows:

- a. The Voltage String Harness includes an in-line photovoltaic fuse within a segment of the harness. The fuse structure has a solid outer surface that

includes a first end, a second end and a middle section. The outer surface of the fuse defines an outline.

- b. On information and belief, the fuse structure of the Voltage String Harness has an undermold surrounding and sealing the fuse, which defines an outer surface that is substantially parallel relative to the outline of the solid outer surface of the fuse.
- c. On information and belief, the fuse structure of the Voltage String Harness has an overmold surrounding the undermold. On information and belief, the overmold and undermold are each constructed of a single unit and of dissimilar materials, and the outline of the overmold is substantially parallel relative to the outline of the undermold.
- d. The fuse structure of the Voltage String Harness includes a first photovoltaic connector engaged with the first end of the fuse (via a cable). The undermold and overmold structures of the assembly provide electrical insulation surrounding the fuse. The double mold of the undermold and overmold structure provides electrical insulation.

41. As shown in Exhibit 4, the Voltage String Harness meets all elements of claim 10 of the '739 Patent as follows:

- a. The Voltage String Harness includes a trunk wire with a plurality of branch wires extending in pairs. The branch wires and trunk wire form angles having vertices of approximately 90 degrees.
- b. The Voltage String Harness includes a plurality of fuse assemblies engaged with the branch wires. There is one fuse assembly per branch wire.

- c. The Voltage String Harness includes an in-line photovoltaic fuse within a segment of the harness. The fuse structure has a solid outer surface that includes a first end, a second end and a middle section. The outer surface of the fuse defines an outline.
 - d. On information and belief, the fuse structure of the Voltage String Harness has an undermold surrounding and sealing the fuse, which defines an outer surface that is substantially parallel relative to the outline of the solid outer surface of the fuse.
 - e. On information and belief, the fuse structure of the Voltage String Harness has an overmold surrounding the undermold. On information and belief, the overmold and undermold are each constructed of a single unit and of dissimilar materials, and the outline of the overmold is substantially parallel relative to the outline of the undermold.
 - f. The fuse structure of the Voltage String Harness includes a first photovoltaic connector engaged with the first end of the fuse (via a cable). The undermold and overmold structures of the assembly provide electrical insulation surrounding the fuse. The double mold of the undermold and overmold structure provides electrical insulation.
42. As shown in Exhibit 4, the Voltage String Harness meets all elements of claim 15 of the '739 Patent as follows:
- a. On information and belief, the trunk of the Voltage String Harness is designed, intended, and used to be engaged with a combiner box, which lacks fuses and circuit breakers.

- b. Each terminal branch of the Voltage String Harness is engaged with one solar panel, wherein each terminal branch includes one in-line fuse assembly.
 - c. The Voltage String Harness includes an in-line photovoltaic fuse within a segment of the harness. The fuse structure has a solid outer surface that includes a first end, a second end and a middle section. The outer surface of the fuse defines an outline.
 - d. On information and belief, the fuse structure of the Voltage String Harness has an undermold surrounding and sealing the fuse, which defines an outer surface that is substantially parallel relative to the outline of the solid outer surface of the fuse.
 - e. On information and belief, the fuse structure of the Voltage String Harness has an overmold surrounding the undermold. On information and belief, the overmold and undermold are each constructed of a single unit and of dissimilar materials, and the outline of the overmold is substantially parallel relative to the outline of the undermold.
 - f. The fuse structure of the Voltage String Harness includes a first photovoltaic connector engaged with the first end of the fuse (via a cable). The undermold and overmold structures of the assembly provide electrical insulation surrounding the fuse. The double mold of the undermold and overmold structure provides electrical insulation.
43. A claim chart showing how the Voltage In-Line Fuse meets each of the elements of claim 1 of the '739 Patent is attached hereto as **Exhibit 5**.

44. As shown in Exhibit 5, the Voltage In-Line Fuse meets all elements of claim 1 of the '739 Patent as follows:

- a. The Voltage In-Line Fuse includes a photovoltaic fuse. The fuse structure has a solid outer surface that includes a first end, a second end and a middle section. The outer surface of the fuse defines an outline.
- b. On information and belief, the Voltage In-Line Fuse has an undermold surrounding and sealing the fuse, which defines an outer surface that is substantially parallel relative to the outline of the solid outer surface of the fuse.
- c. On information and belief, the Voltage In-Line Fuse has an overmold surrounding the undermold. On information and belief, the overmold and undermold are each constructed of a single unit and of dissimilar materials, and the outline of the overmold is substantially parallel relative to the outline of the undermold.
- d. The Voltage In-Line Fuse includes a first photovoltaic connector engaged with the first end of the fuse (via a cable). The undermold and overmold structures of the assembly provide electrical insulation surrounding the fuse. The double mold of the undermold and overmold structure provides electrical insulation.

45. Versions of the Voltage LYNX Trunk Bus that incorporate an in-line fuse assembly infringe the '739 Patent for the same reasons.

46. On information and belief, the Voltage Defendants have profited from and will continue to profit from their infringing activities. Shoals has been damaged by, and will continue to be damaged by, the Voltage Defendants' infringement of the '739 Patent,

and thus is entitled to recover damages from the Voltage Defendants to compensate for the infringement, including lost profits and a reasonable royalty. The Voltage Defendants' infringement of the '739 Patent will continue to damage Shoals' business and cause immediate and irreparable harm for which there is no adequate remedy at law, unless enjoined by this Court.

47. Shoals is entitled to damages adequate to compensate it for the infringement but in no event less than a reasonable royalty.

VI. SECOND CLAIM FOR RELIEF

(Infringement of U.S. Patent No. 10,992,254)

48. Shoals incorporates by reference the allegations contained in the foregoing paragraphs.

49. The Voltage Defendants infringe the '254 Patent, literally or under the doctrine of equivalents, in violation of at least 35 U.S.C. § 271(a) by making, using, selling, offering for sale and/or importing into the United States products, such as the LYNX Trunk Bus, that incorporate a lead assembly for use in solar energy installation that infringe one or more claims of the '254 Patent, including at least claims 1, 7, and 14.

50. Upon information and belief, the Voltage Defendants infringe the '254 Patent, literally or under the doctrine of equivalents, in violation of at least 35 U.S.C. § 271(b) by actively and knowingly inducing others to make, use, sell, offer for sale, or import into the United States products, such as the LYNX Trunk Bus, that incorporate a lead assembly for use in solar energy installation that infringe one or more claims of the '254 Patent, including at least claims 1, 7, and 14.

51. Upon information and belief, the Voltage Defendants infringe the '254 Patent, literally or under the doctrine of equivalents, in violation of at least 35 U.S.C. §

271(c) by contributing to the infringement of the '254 Patent by actively encouraging, promoting, distributing, providing instructions for, and supporting the assembly and use of products such as the LYNX Trunk Bus, that incorporate a lead assembly for use in solar energy installation that infringe one or more claims of the '254 Patent, including at least claims 1, 7, and 14.

52. A claim chart showing how the Voltage LYNX Trunk Bus meets each of the elements of claims 1, 7, and 14 of the '254 Patent is attached hereto as **Exhibit 6**.

53. As shown in Exhibit 6, the Voltage LYNX Trunk Bus meets all elements of claim 1 of the '254 Patent as follows:

- a. The Voltage LYNX Trunk Bus includes a first drop line and a second drop line. The first drop line terminates in a drop line connector.
- b. The Voltage LYNX Trunk Bus includes a feeder cable which terminates in a feeder cable connector. The first drop line is electrically coupled to the feeder cable at a nexus.
- c. The means for securing the nexus in the Voltage LYNX Trunk Bus comprises a compression lug, soldering, splicing, and/or crimping, and/or combinations or equivalents thereof.
- d. The Voltage LYNX Trunk Bus includes an undermold. The undermold has an inner surface and outer surface. Both surfaces extend in a longitudinal direction of at least one feeder cable. The inner surface surrounds and fully encases the securing means and is comprised of a first aperture concentric with the securing means and the feeder cable. The first aperture extends continuously through the undermold in a longitudinal direction and has a first diameter. The feeder cable continuously extends through the first

aperture. The inner surface also includes a second aperture concentric with the first drop line and parallel to the first aperture. The second aperture only partially extends through the undermold in a longitudinal direction and has a diameter smaller than the diameter of the first aperture, as shown below. The first drop line extends from the second aperture.

- e. The Voltage LYNX Trunk Bus includes an overmold surrounding the undermold. The overmold forms an undermold-overmold interface only at the outer surface. The Voltage LYNX Trunk Bus “eliminates multiple traditional components on a utility scale solar installation” and has a voltage rating of 1500 VDC.

54. As shown in Exhibit 6, the Voltage LYNX Trunk Bus meets all elements of claim 7 of the '254 Patent as follows:

- a. The Voltage LYNX Trunk Bus is designed, intended and used for a solar power system that comprises a first plurality of solar panels electrically coupled by a first wire harness to form a first solar array.
- b. The Voltage LYNX Trunk Bus is designed, intended and used for a solar power system that comprises a second plurality of solar panels electrically coupled by a second wire harness to form a second solar array.
- c. The Voltage LYNX Trunk Bus is a lead assembly which includes a first drop line electrically connected to a first wire harness. Voltage LYNX Trunk Bus includes a feeder cable, which “may be connected to an inverter or to a disconnect box or other electrically receiving device/component, which may, in some embodiments, include a switch and/or fuse protection.” The feeder cable is electrically connected at a first nexus secured by a

compression lug or equivalent. The nexus is surrounded by an undermold. The undermold has an inner surface and outer surface. Both surfaces extend in a longitudinal direction of the feeder cable. The inner surface surrounds and fully encases the compression lug or equivalent and is comprised of a first aperture concentric with the compression lug or equivalent and the feeder cable. The first aperture extends continuously through the undermold in a longitudinal direction and has a first diameter. The feeder cable continuously extends through the first aperture. The inner surface also includes a second aperture concentric with the first drop line and parallel to the first aperture. The second aperture only partially extends through the undermold in a longitudinal direction and has a diameter smaller than the diameter of the first aperture. The first drop line extends from the second aperture. The Voltage LYNX Trunk Bus includes an overmold surrounding the undermold. The overmold forms an undermold-overmold interface only at the outer surface. The Voltage LYNX Trunk Bus “eliminates multiple traditional components on a utility scale solar installation” and has a voltage rating of 1500 VDC.

- d. The Voltage LYNX Trunk Bus is a lead assembly which includes a second drop line electrically connected to a second wire harness. The Voltage LYNX Trunk Bus “may be used to directly connect solar panels and inverters (or other receivers of solar generated electricity, or other electricity), without the need for combiner boxes and the associated combiner box maintenance and installation.”

55. As shown in Exhibit 6, the Voltage LYNX Trunk Bus meets all elements of claim 14 of the '254 Patent as follows:

- a. The Voltage LYNX Trunk Bus is designed, intended and used for constructing a solar power system that comprises connecting a first plurality of solar panels to a first wire harness to form a first solar array.
- b. The Voltage LYNX Trunk Bus connects the first wire harness to a first drop line of a lead assembly.
- c. The Voltage LYNX Trunk Bus is designed, intended and used for constructing a solar power system that comprises connecting a second plurality of solar panels to a second wire harness to form a second solar array.
- d. The Voltage LYNX Trunk Bus connects the second wire harness to a second drop line of a lead assembly.
- e. The Voltage LYNX Trunk Bus “may be used to directly connect solar panels and inverters (or other receivers of solar generated electricity, or other electricity), without the need for combiner boxes and the associated combiner box maintenance and installation.” The Voltage LYNX Trunk Bus is a lead assembly which includes a first drop line electrically connected to a first wire harness.
- f. The Voltage LYNX Trunk Bus includes a feeder cable which terminates in a feeder cable connector. The first drop line is coupled to the feeder cable at a nexus. The feeder cable is electrically connected at a first nexus secured by a means for securing the nexus. The securing means is surrounded by an undermold. The undermold has an inner surface and outer surface. Both

surfaces extend in a longitudinal direction of the feeder cable. The inner surface surrounds and fully encases the securing means and is comprised of a first aperture concentric with the securing means and the feeder cable. The first aperture extends continuously through the undermold in a longitudinal direction and has a first diameter. The feeder cable continuously extends through the first aperture. The inner surface also includes a second aperture concentric with the first drop line and parallel to the first aperture. The second aperture only partially extends through the undermold in a longitudinal direction and has a diameter smaller than the diameter of the first aperture. The first drop line extends from the second aperture. The Voltage LYNX Trunk Bus includes an overmold surrounding the undermold. The overmold forms an undermold-overmold interface only at the outer surface. The Voltage LYNX Trunk Bus “eliminates multiple traditional components on a utility scale solar installation” and has a voltage rating of 1500 VDC.

56. On information and belief, the Voltage Defendants have profited from and will continue to profit from their infringing activities. Shoals has been damaged by, and will continue to be damaged by, the Voltage Defendants’ infringement of the ’254 Patent, and thus is entitled to recover damages from the Voltage Defendants to compensate for the infringement, including lost profits and a reasonable royalty. The Voltage Defendants’ infringement of the ’254 Patent will continue to damage Shoals’ business and cause immediate and irreparable harm for which there is no adequate remedy at law, unless enjoined by this Court.

57. Shoals is entitled to damages adequate to compensate it for the infringement but in no event less than a reasonable royalty.

VII. THIRD CLAIM FOR RELIEF

(Infringement of U.S. Patent No. 11,689,153)

58. Shoals incorporates by reference the allegations contained in the foregoing paragraphs.

59. The Voltage Defendants infringe the '153 Patent, literally or under the doctrine of equivalents, in violation of at least 35 U.S.C. § 271(a) by making, using, selling, offering for sale and/or importing into the United States products, such as the LYNX Trunk Bus, that incorporate a lead assembly for use in solar energy installation that infringe one or more claims of the '153 Patent, including at least claims 1, 21, and 24.

60. Upon information and belief, the Voltage Defendants infringe the '153 Patent, literally or under the doctrine of equivalents, in violation of at least 35 U.S.C. § 271(b) by actively and knowingly inducing others to make, use, sell, offer for sale, or import into the United States products, such as the LYNX Trunk Bus, that incorporate a lead assembly for use in solar energy installation that infringe one or more claims of the '153 Patent, including at least claims 1, 21, and 24.

61. Upon information and belief, the Voltage Defendants infringe the '153 Patent, literally or under the doctrine of equivalents, in violation of at least 35 U.S.C. § 271(c) by contributing to the infringement of the '153 Patent by actively encouraging, promoting, distributing, providing instructions for, and supporting the assembly and use of products such as the LYNX Trunk Bus, that incorporate a lead assembly for use in

solar energy installation that infringe one or more claims of the '153 Patent, including at least claims 1, 21, and 24.

62. A claim chart showing how the Voltage LYNX Trunk Bus meets each of the elements of claims 1, 21, and 24 of the '153 Patent is attached hereto as **Exhibit 7**.

63. As shown in Exhibit 7, the Voltage LYNX Trunk Bus meets all elements of claim 1 of the '153 Patent as follows:

- a. The Voltage LYNX Trunk Bus includes a drop line terminating at a drop line connector, which is configured to connect with a central trunk of a wire harness.
- b. The Voltage LYNX Trunk Bus includes a feeder cable electrically coupled to the drop line at a nexus.
- c. The Voltage LYNX Trunk Bus comprises an undermold fully encasing the nexus.
- d. The undermold of the Voltage LYNX Trunk Bus comprises a first aperture extending completely through the undermold. The first aperture has a first diameter. The feeder cable extends through the first aperture along a first longitudinal axis.
- e. The undermold of the Voltage LYNX Trunk Bus comprises a second aperture extending partially through the undermold. The second aperture has a second diameter different than the first diameter. The drop line extends from the second aperture along a second longitudinal axis.
- f. The undermold of the Voltage LYNX Trunk Bus comprises a third aperture extending partially through the undermold. The third aperture has a third

diameter different than the first diameter. A second drop line extends from the third aperture along a third longitudinal axis.

- g. The Voltage LYNX Trunk Bus also comprises an overmold surrounding the undermold.

64. As shown in Exhibit 7, the Voltage LYNX Trunk Bus meets all elements of claim 21 of the '153 Patent as follows:

- a. The Voltage LYNX Trunk Bus is designed and intended for a solar power system that comprises a plurality of solar panels electrically coupled to one of a plurality of branches of a wire harness to form a first solar array.
- b. The Voltage LYNX Trunk Bus is a lead assembly that is an all-in-one trunk bus that provides stable power transmission from solar panels to the utility power collection system.
- c. The Voltage LYNX Trunk Bus lead assembly includes a drop line that can be electrically connected to a central trunk of a wire harness and is configured to receive power from a plurality of solar panels.
- d. The Voltage LYNX Trunk Bus lead assembly includes a second drop line that can be electrically connected to a central trunk of a second wire harness and is configured to receive power from a plurality of solar panels in a second solar array.
- e. The Voltage LYNX Trunk Bus lead assembly includes a feeder cable electrically connected to the drop line and second drop line at a nexus.
- f. The Voltage LYNX Trunk Bus includes a primary mold that fully encases the nexus so as to substantially seal the nexus from external environmental conditions.

- g. The primary mold of the Voltage LYNX Trunk Bus comprises a first aperture extending completely through the primary mold. The first aperture has a first diameter and the feeder cable extends through the first aperture.
- h. The primary mold of the Voltage LYNX Trunk Bus comprises a second aperture extending partially through the primary mold. The second aperture has a second diameter smaller than the first diameter. The drop line extends into the second aperture.
- i. The primary mold of the Voltage LYNX Trunk Bus comprises a third aperture extending partially through the primary mold. The third aperture has a third diameter smaller than the first diameter. The second drop line extends into the third aperture.

65. As shown in Exhibit 7, the Voltage LYNX Trunk Bus meets all elements of claim 24 of the '153 Patent as follows:

- a. The Voltage LYNX Trunk Bus is designed and intended for a solar power system that comprises a plurality of solar panels electrically coupled by a wire harness to form a first solar array.
- b. The Voltage LYNX Trunk Bus is a lead assembly that is an all-in-one trunk bus that provides stable power transmission from solar panels to the utility power collection system.
- c. The Voltage LYNX Trunk Bus lead assembly includes a first drop line that can be electrically connected to a wire harness and configured to receive power from the plurality of solar panels.
- d. The Voltage LYNX Trunk Bus lead assembly includes a feeder cable electrically connected to the drop line at a nexus.

- e. The Voltage LYNX Trunk Bus lead assembly includes a primary mold that fully encases the nexus so as to substantially seal the nexus from external environmental conditions.
- f. The primary mold of the Voltage LYNX Trunk Bus comprises a first aperture extending completely through the primary mold. The first aperture has a first diameter and the feeder cable extends through the first aperture along a first longitudinal axis.
- g. The primary mold of the Voltage LYNX Trunk Bus comprises a second aperture extending partially through the primary mold. The second aperture has a second diameter smaller than the first diameter. The drop line extends into the second aperture along a second longitudinal axis.
- h. The Voltage LYNX Trunk Bus includes a second drop line that can be electrically connected to a second wire harness that connects to a plurality of solar panels. The second drop line is electrically connected to the feeder cable at the nexus, which is fully encased by the primary mold. The second drop line in the Voltage LYNX Trunk Bus extends into a third aperture defined by the primary mold along a third axis.

66. On information and belief, the Voltage Defendants have profited from and will continue to profit from their infringing activities. Shoals has been damaged by, and will continue to be damaged by, the Voltage Defendants' infringement of the '153 Patent, and thus is entitled to recover damages from the Voltage Defendants to compensate for the infringement, including lost profits and a reasonable royalty. The Voltage Defendants' infringement of the '153 Patent will continue to damage Shoals' business and cause

immediate and irreparable harm for which there is no adequate remedy at law, unless enjoined by this Court.

67. Shoals is entitled to damages adequate to compensate it for the infringement but in no event less than a reasonable royalty.

VIII. JURY DEMAND

Pursuant to Federal Rule of Civil Procedure 38(b), Shoals hereby demands a trial by jury on all issues and claims so triable.

IX. PRAYER FOR RELIEF

WHEREFORE, Shoals respectfully prays for the following relief:

1. A judgment that the Voltage Defendants are liable for infringement of at least one claim of the Asserted Patents.
2. An award to Shoals of monetary damages adequate to compensate it for the Voltage Defendants' infringement of the Asserted Patents, pursuant to 35 U.S.C. § 284, in an amount to be proven at trial.
3. A permanent injunction prohibiting the Voltage Defendants and their officers, agents, representatives, assigns, licensees, distributors, employees, related entities, and all those acting in privity or acting in concert with them from infringing, inducing, or contributing to the infringement of the Asserted Patents.
4. A finding that this case is exceptional under 35 U.S.C. § 285 and awarding Shoals its reasonable attorneys' fees accordingly.
5. An award to Shoals of pre-judgment and post-judgment interest.
6. An award taxing Shoals' costs and expenses of this suit to the Voltage Defendants.

7. Such other and further relief as the Court may deem just and proper.

Dated: June 28, 2023

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** Special Appearance Under Local Rule
83.1(d) in process*

CERTIFICATE OF SERVICE

I hereby certify that, on the 28th day of June, 2023, I electronically filed the foregoing document with the Clerk of Court using the CM/ECF System, which will send notification via electronic means to the attorneys of record at that time.

This the 28th day of June, 2023.

/s/ David M. Wilkerson
David M. Wilkerson